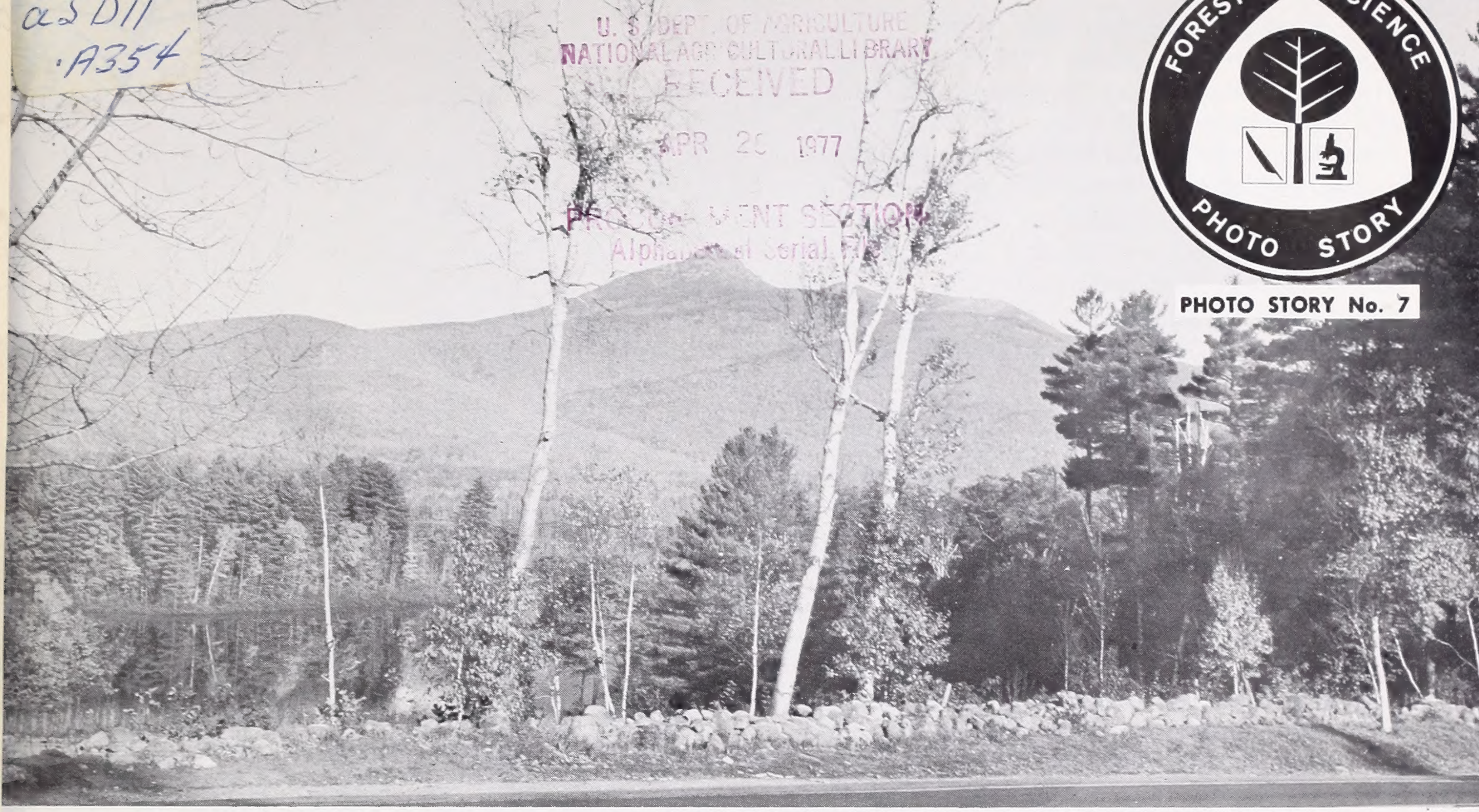
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

aSD11
.A354

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY
RECEIVED
APR 20 1977
PROCUREMENT SECTION
Alphabetical Serial File

PHOTO STORY No. 7



Once, beautiful birches framed this magnificent scene. Now the trees are dead. This episode is being repeated too often along scenic areas and roads. How much more of this can we take?

OUR DISEASED FOREST TREES NEED HELP

serve

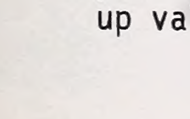
Disease and forest trees? "So what???!!" you might shrug. But forest-tree diseases are serious problems for all of us. Therefore, USDA Forest Service pathologists are presently involving themselves in research and action programs to help prevent and control diseases in our forests.

Forest trees are our most valuable, renewable natural resource. You can cut them, and more trees will grow to replace them. But, as our population increases, and our forest land decreases--with land taken over by highways, power line rights-of-way, homesites, industrial sites, and recreation areas -- there is less space to grow trees. Yet we keep on placing demands on the forests and keep on expecting the returns from the diminishing forest lands to continue meeting our increasing demands.

We want beautiful, vigorous trees in our recreation areas. We want more high-quality trees for wood and wood products. We want healthy, long-lived trees to hold the soil. We want every tree that takes up precious forest land to be worthy of the space. When the trees that take up valuable space are not worthwhile, there are problems.

NOTICE TO PUBLISHERS

Information in this news bulletin may be reprinted. Please give appropriate credit. Additional information or photographs may be obtained from: **Information Services** Tel—(Area Code 215) FL 2-5800, Ext—288.



NORTHEASTERN FOREST EXPERIMENT STATION • UPPER DARBY, PENNSYLVANIA 19082

Trees, like men and other living things, can take only so much stress, injury, and disease before they become weak, infected, and defective; and die. You may say, "So what! All living things pass this route and die." Yes, but when some trees have the genetic make-up to live over 300 years and to attain a tall, stately form, and instead they exist for only a fraction of that time as diseased, defective trees, we all lose out.

History paints a clear picture of what can happen to valuable trees in our forest. The chestnut blight all but eradicated the mighty American chestnut tree. The white pine blister rust has caused severe damage to white pine. We must not let this happen again, we say. Yet, now American beech is being killed by the beech bark disease; oak wilt is killing our oaks; ash, maples, birches, and other species are suffering declines; dwarf mistletoes, root rots, and rust diseases are killing our conifers; and the list goes on and on. The potential of some of these diseases is awesome.

To the untrained eye, all tall, green-leaved trees look healthy. But the experts are not deceived by a tree's external appearance, for the microorganisms that attack these trees and incite diseases that result in discolorations and decays of the wood are deep inside, out of sight to all.

Such trees are worthless for timber and a source of infection for their neighbors. They take up valuable space in the forest, and they are hazards around recreation areas and roads. Add to all this the fact that forest diseases annually cause losses to timber estimated at 5 billion cubic feet of growing stock, including 20 billion feet of sawtimber (92 percent of net sawtimber growth) and the problem is quite apparently serious.

We want a lot from our shrinking forests. We are not going to get what we want if this disease trend continues. For trees that are healthy, we can apply the knowledge of forestry with excellent results. But for trees that are diseased, we must search for solutions.

The next time you see miles of green forests, ask yourself, "How many of those trees are diseased?" "What are we going to do about them?" Our diseased forest trees do indeed need help and USDA Forest Service pathologists are working to provide that help.

This oak stem broke at a point weakened by disease-causing microorganisms. Such trees near power lines, roads, and recreation areas are hazardous.

The three dead trees marked with w
Fomes annosus; an aggressive root-
can spread quickly through plantat
of dead trees.

White pine blister rust is a fungus that causes a destructive disease of eastern white pines.

This young chestnut tree doesn't stand a chance. It is going the same route as its ancestors: quick death due to the chestnut blight. The fungus that causes the disease has killed the base of this tree. The roots are not killed by the fungus and root shoots continue to grow. When the shoots grow to a larger size, the fungus will kill them, too. Are we going to let other tree species go the same route?

nds were killed by
fungus. This fungus
aving behind a wake

Dwarf mistletoe on a pine tree. Dwarf mistletoe is the most serious disease-causing agent in the West.

Trees, like men and other living things, can take only so much stress, injury, and disease before they become weak, infected, and defective; and die. You may say, "So what! All living things pass this route and die." Yes, but when some trees have the genetic make-up to live over 300 years and to attain a tall, stately form, and instead they exist for only a fraction of that time as diseased, defective trees, we all lose out.

History paints a clear picture of what can happen to valuable trees in our forest. The chestnut blight all but eradicated the mighty American chestnut tree. The white pine blister rust has caused severe damage to white pine. We must not let this happen again, we say. Yet, now American beech is being killed by the beech bark disease; oak wilt is killing our oaks; ash, maples, birches, and other species are suffering declines; dwarf mistletoes, root rots, and rust diseases are killing our conifers; and the list goes on and on. The potential of some of these diseases is awesome.

To the untrained eye, all tall, green-leaved trees look healthy. But the experts are not deceived by a tree's external appearance, for the microorganisms that attack these trees and incite diseases that result in discolorations and decays of the wood are deep inside, out of sight to all.

Such trees are worthless for timber and a source of infection for their neighbors. They take up valuable space in the forest, and they are hazards around recreation areas and roads. Add to all this the fact that forest diseases annually cause losses to timber estimated at 5 billion cubic feet of growing stock, including 20 billion feet of sawtimber (92 percent of net sawtimber growth) and the problem is quite apparently serious.

We want a lot from our shrinking forests. We are not going to get what we want if this disease trend continues. For trees that are healthy, we can apply the knowledge of forestry with excellent results. But for trees that are diseased, we must search for solutions.

The next time you see miles of green forests, ask yourself, "How many of those trees are diseased?" "What are we going to do about them?" Our diseased forest trees do indeed need help and USDA Forest Service pathologists are working to provide that help.

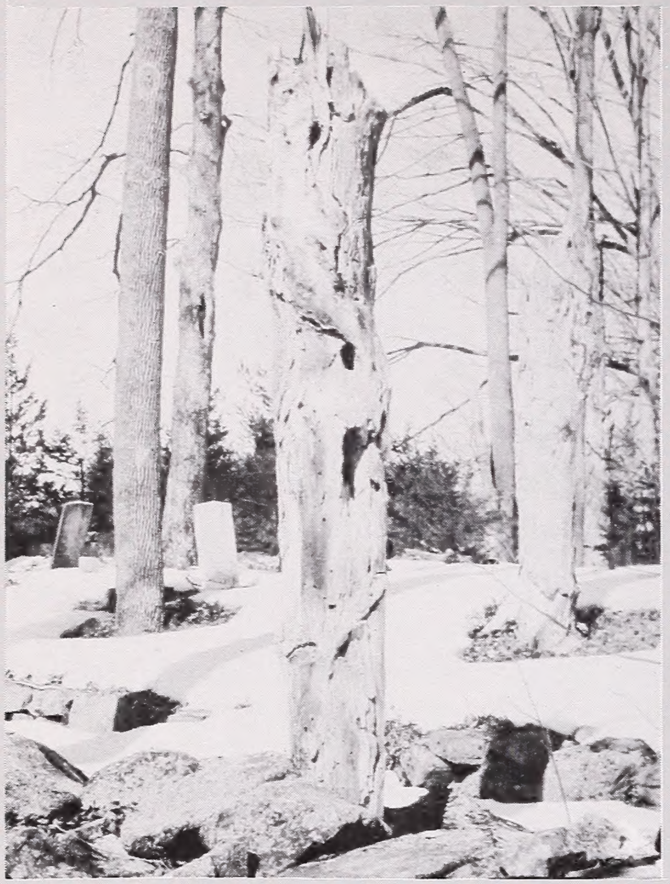
This oak stem broke at a point weakened by disease-causing microorganisms. Such trees near power lines, roads, and recreation areas are hazardous.

White pine blister rust is a fungus that causes a destructive disease of eastern white pines.

This young chestnut tree doesn't stand a chance. It is going the same route as its ancestors: quick death due to the chestnut blight. The fungus that causes the disease has killed the base of this tree. The roots are not killed by the fungus and root shoots continue to grow. When the shoots grow to a larger size, the fungus will kill them, too. Are we going to let other tree species go the same route?

The three dead trees marked with w bands were killed by *Fomes annosus*; an aggressive root-ing fungus. This fungus can spread quickly through plantat leaving behind a wake of dead trees.

Dwarf mistletoe on a pine tree. Dwarf mistletoe is the most serious disease-causing agent in the West.

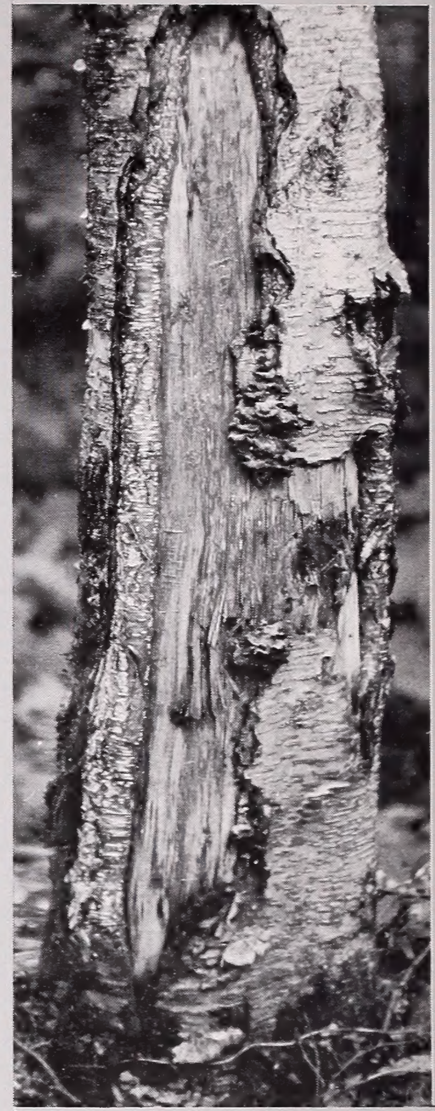


Trees like the people in this graveyard will die and decay. But it is wasteful when trees die and decay long before their time.

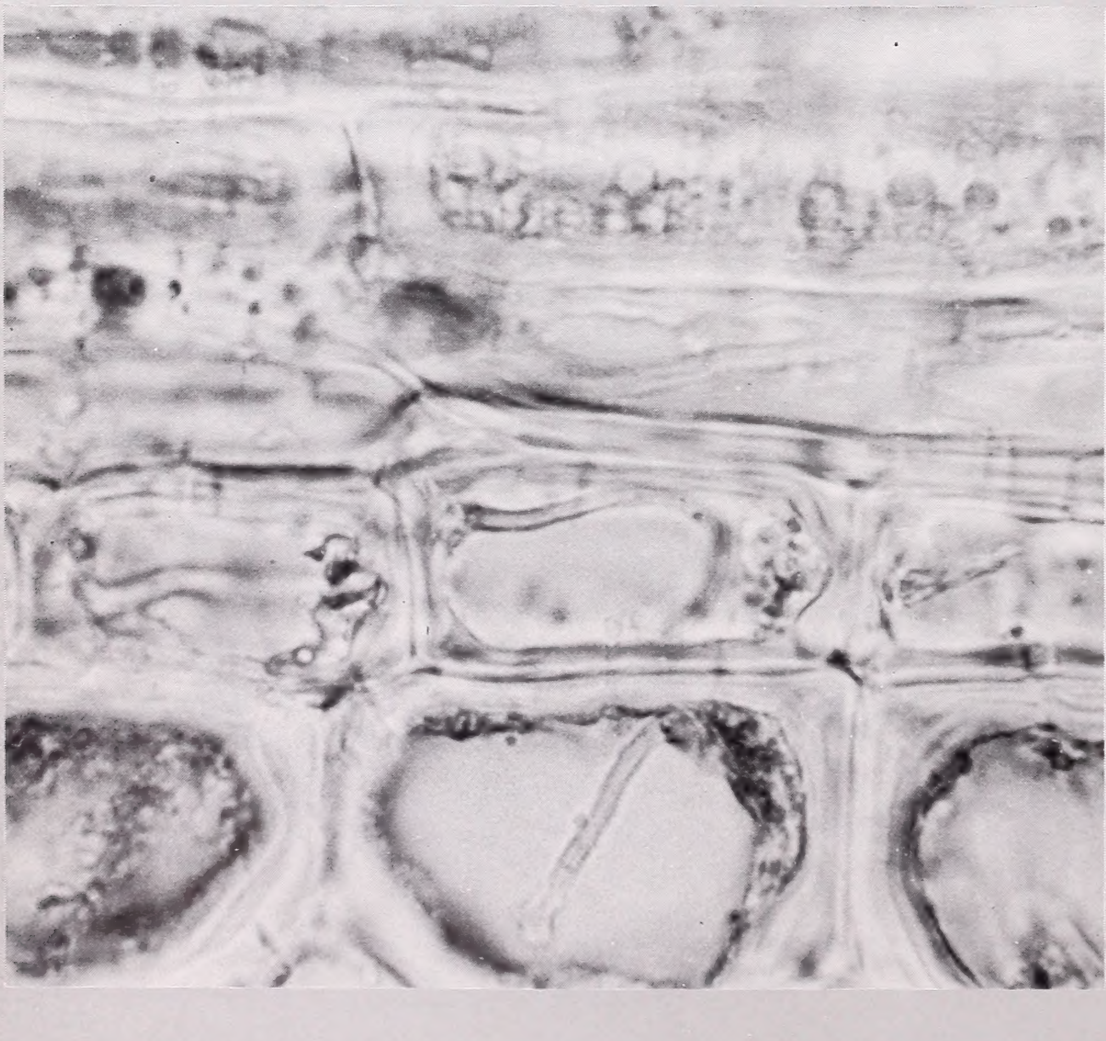
←

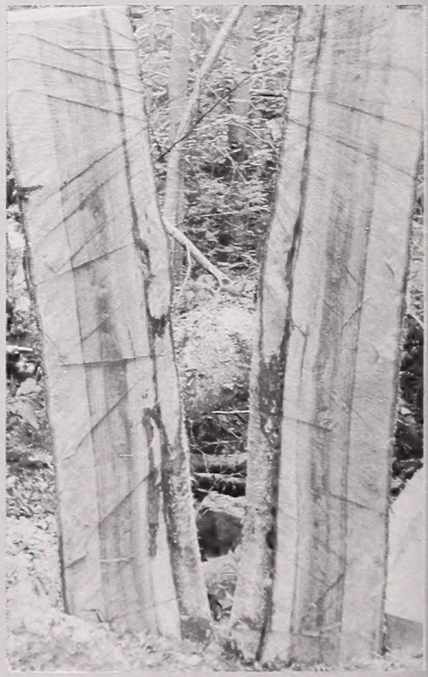
→

An 8-year-old logging wound on a yellow birch. Wounds are the major entrance points for microorganisms that incite diseases, resulting in discoloration and decays of wood. Such trees may appear healthy, but their insides are diseased. These trees are of little value, but continue taking up valuable space in the forest.



A section of diseased wood under the microscope shows the tube-like body of a fungus penetrating and digesting living cells. The diseases incited by these microorganisms are usually not noticed until it is too late to do anything.





Dissection of a large yellow birch tree. The tree appeared healthy, but most of the wood inside was defective and of no value.